

REMARKS

Claims 1, 3, 5, and 8 are currently pending, wherein Applicants proposed to amend claims 1 and 5 to correct typographical errors. Applicants respectfully request entry of the above-identified amendments and favorable reconsideration in view of the remarks presented herein below.

In paragraph 3 of the final Office action (“Action”), the Examiner rejects claims 1, 3, 5, and 8 under 35 U.S.C. § 103(a) as allegedly being unpatentable over International Patent Publication No. WO 02/47246 to Yoshimine (“Yoshimine”) in view of U.S. Patent No. 6,748,807 to Yoshiuchi et al. (“Yoshiuchi”). Applicants respectfully traverse this rejection.

In order to support a rejection under 35 U.S.C. § 103, the Examiner must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some motivation to combine the cited references. Second, there must be a reasonable expectation of success. Finally, the combination must teach each and every claimed element. In the present case, claims 1, 3, 5, and 8 are not rendered unpatentable by the combination of Yoshimine and Yoshiuchi because the Examiner fails to establish a *prima facie* case of obviousness as discussed below.

Independent claim 1 defines a method for preventing signal coupling between two or more flow-through type chip-based mounted piezoelectric resonator sensors used in an electrically conductive liquid. The method includes, *inter alia*, providing each sensor with its own, individual conducting shield which substantially surrounds the flowcell body of the sensor and is connected to one pole of the power supply. In addition, the inner wall of the flow tube and each cavity is made of a non-conducting material.

In rejecting claim 1, the Examiner asserts that it would have been obvious to one skilled in the art “to combine the grounded shield of Yoshiuchi et al. with the piezoelectric sensor of Yoshimine et al. for the benefit of reducing the buildup of electrostatic charge in the conductive shield.” To support this assertion, the Examiner points to column 6, lines 13-16 of Yoshiuchi. The Examiner is requested to reconsider this rejection for the following reasons.

First, Yoshimine discloses two types of liquid-phase quartz oscillator sensors. One of the sensors comprises a substrate having a plurality of quartz crystal plates mounted thereon and the other of the sensors comprises a substrate having a quartz crystal plate mounted thereon, the crystal plate having a plurality of electrodes deposited thereon. In contrast, Yoshiuchi discloses a sensor designed to be used in imaging apparatuses, such as video cameras, not liquid-phase applications. Furthermore, nowhere in Yoshimine or Yoshiuchi is there any disclosure or evidence that liquid-phase sensor of Yoshimine could be modified to include the grounded shield 17 of Yoshiuchi and still be capable of working in a liquid-phase environment.

Second, even if the liquid-phase sensor of Yoshimine could be modified as suggested by the Examiner, the combination would still fail to render claim 1 unpatentable because the combination fails to disclose each and every claimed element. As noted by the Examiner, the Yoshiuchi discloses that the shield 17 is *grounded*, not connected to one pole of the power supply as claimed.

Therefore, even if one skilled in the art were motivated and able to modify the sensor of Yoshimine to include the grounded shield of Yoshiuchi, as suggested by the Examiner, the combination would still fail to render claim 1 unpatentable because the combination fails to disclose or suggest providing a conducting shield which substantially surrounds the flowcell

body of each sensor and is connected to one pole of the power supply as claimed. Accordingly, independent claim 1 is patentable over the combination of Yoshimine and Yoshiuchi for at least the reason that the combination fails to disclose each and every claimed element.

Independent claim 5 defines a piezoelectric resonator sensor. The sensor includes, *inter alia*, a body comprising a resonator connected to a single oscillator circuit and a single power supply. In addition, the body is substantially surrounded by a conducting shield connected to one pole of the power supply, and an inner wall of a cavity, an inlet channel, and an outlet channel are insulated from the shield. Accordingly, independent claim 5 is patentable over the combination of Yoshimine and Yoshiuchi for at least the reason that the combination fails to disclose or suggest a piezoelectric resonator that includes a body substantially surrounded by a conducting shield, said shield being connected to one pole of a power supply, wherein an inner wall of a cavity, an inlet channel, and an outlet channel are insulated from said shield. (See discussion above with respect to claim 1.).

Claims 3 and 8 depend from independent claims 1 and 5 respectively. Therefore, claims 3 and 8 are patentable over the combination of Yoshimine and Yoshiuchi for at least those reasons presented above with respect to claims 1 and 5. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 3, 5, and 8 under 35 U.S.C. § 103.

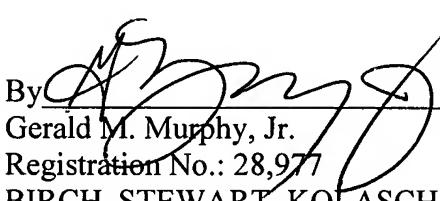
The application is in condition for allowance. Notice of same is earnestly solicited. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Penny Caudle (Reg. No. 46,607) at the telephone

number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 
Gerald M. Murphy, Jr.
Registration No.: 28,977
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicants